

REMARKS

Claims 2-10, 27-31 and 33-37 are pending in the above-identified application. Claims 27-30 and 33-35 have been amended. New claims 38-49 have been added. Following entry of the amendments claims 2-10, 27-31 and 33-49 will be under examination.

Claims 27-30 and 33-35 have been amended to include the steps of modifying the first or second oligonucleotides hybridized or in contact with first and second target nucleic acids and contacting the pool of modified first or second oligonucleotides back to a substrate or array containing first and second oligonucleotides. New independent claims 51 and 52 have been added. These claims correspond to claims 33 and 34, respectively, and additionally include the step of contacting the pool of first and second oligonucleotides in contact with target nucleic acids back to a substrate or array containing first and second oligonucleotides. Dependent claims 38-50 have been added and further recite particular modification assays that can be applied to the pool of first and second oligonucleotides.

Support for the step of modifying the first and second oligonucleotides can be found throughout the application as filed including, for example, at page 8, forth paragraph, where the application teaches that the claimed pools of oligonucleotides find use in a number of detection and/or amplification reactions; at page 12, second paragraph, where the application teaches amplification reactions, including PCR; at page 21, first paragraph, where the application teaches, for example, genotyping, single nucleotide polymorphism (SNP) detection and amplification reactions, and at page 23, second paragraph, where the application teaches, for example, genotyping assays, including assays such as OLA, single base extension, Invader and the like, assays for detection of single nucleotide polymorphisms, sequencing and amplification, including PCR.

Support for the amendments to contacting the pool of first and second oligonucleotides back to a substrate or array can be found throughout the application as filed including, for example, at page 23, second through fourth paragraphs, where the application teaches that, once formed, the pool of oligonucleotides finds use in a number of assays and that “[o]nce the solution phase is performed, the experiments may include an array detection step.” Accordingly, none of the amendments raise an issue of new matter and entry thereof is respectfully requested.

Applicants have reviewed the rejections set forth in the Office Action mailed November 9, 2006, and respectfully traverse all grounds for the reasons that follow.

Rejections Under 35 U.S.C. § 102

Claims 2, 5-10, 27-31 and 33-37 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Lipshutz et al., U.S. Patent No. 6,013,440, as evidenced by Sinha et al. The Examiner alleges that certain passages in Lipshutz et al. cited in the Office Action describe all elements of the claimed invention.

When lack of novelty is based on a printed publication that is asserted to describe the same invention, a finding of anticipation requires that the publication describe all of the elements of the claims. *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1349, 48 U.S.P.Q.2d 1225, (Fed. Cir. 1998) (quoting *Shearing v. Iolab Corp.*, 975 F.2d 1541, 1544-45, 24 U.S.P.Q.2d 1133, 1136 (Fed. Cir. 1992)).

Claims 27-30 and 33-35 are directed to a method for multiplex detection of target nucleic acids that contact a pool of at least first and second oligonucleotides cleaved from a substrate with at least a first and second target nucleic acid. These claims further recite contacting the pool of first and second oligonucleotides hybridized or in contact with the first and second target nucleic acid with another substrate or array containing first and second oligonucleotides. New claims 38, 41, 44 and 47 additionally claim a modification step of the pool of oligonucleotides. Lipshutz et al. fails to describe either of these steps. In particular, Lipshutz et al. is silent with respect to contacting the pool of oligonucleotides back to a substrate or array and to modifying the pool of oligonucleotides in contact with target nucleic acids and contacting the modified oligonucleotides back to a substrate or array. Therefore, Lipshutz et al. cannot anticipate the invention as claimed and withdrawal of this ground of rejection is respectfully requested.

Claims 2, 5-7, 9, 27, 30, 31, 33 and 35-37 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Lam et al. Citing to certain passages in Lam et al., the Examiner alleges that these descriptions describe each element of the claimed invention.

As with the previous rejection over Lipshutz et al., Lam et al. also fails to describe the steps of contacting a pool of oligonucleotides back to a substrate or array and to modifying the

pool of oligonucleotides in contact with target nucleic acids and contacting the modified oligonucleotides back to a substrate or array. Therefore, Lam et al. similarly cannot anticipate the invention as claimed and withdrawal of this ground of rejection is respectfully requested.

Claims 3 and 4 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Lipshutz et al., as evidenced by Sinha et al., and Nelson et al. Lipshutz et al. is applied as above and alleged to additionally describe fluorescent detection of hybrids whereas Nelson et al. is alleged to describe the labeling of oligonucleotides during synthesis. The Examiner alleges that it would have been obvious to combine the methods of Lipshutz et al. and Nelson et al. allegedly because the oligonucleotides could be used directly in a number of assays.

To establish a *prima facie* case of obviousness, the Office must show that the prior art would have suggested the claimed invention to one of ordinary skill in the art and that it could have been carried out with a reasonable likelihood of success when viewed in the light of the prior art. *Brown & Williamson Tobacco v. Philip Morris*, 229 F.3d 1120, 1124 (Fed. Cir. 2000), accord *In re Royka*, 180 USPQ 580 (C.C.P.A. 1974) (to establish *prima facie* obviousness, all claim limitations must be taught or suggested by the prior art); M.P.E.P. §2143.03.

Claims 3 and 4 depend from and contain all the elements of base claims 27, 28, 29 or 30. Because Lipshutz et al. fails to describe or suggest all elements of base claims 27, 28, 29 or 30, the further inclusion of fluorescent detection and oligonucleotide labeling fails to supply the requisite teaching, suggestion or motivation for the step of contacting a pool of oligonucleotides back to a substrate or array. Absent some teaching, suggestion or motivation in the secondary reference to Nelson et al. for this missing element, the cited combination of Lipshutz et al. in view of Nelson et al. fails to render the claimed invention obvious. Therefore, withdrawal of this ground of rejection is respectfully requested.

CONCLUSION

Applicant submits that the claims are in condition for allowance and respectfully request a notice to this effect. Should the Examiner have any questions, she is invited to call the undersigned attorney.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,

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